

Amendments to the Drawings

The attached sheets of drawings include changes to Figures 1, 2, 5, 7, 10, 11A, 13, 14, 15, 17, 19, and 20.

First sheet, which includes Figure 1, replaces the original sheet including Figure 1. In Figure 1, reference numeral 21 has been removed.

Second sheet, which includes Figure 2, replaces the original sheet including Figure 2. In Figure 2, reference numeral 34 has been removed.

Third sheet, which includes Figure 5, replaces the original sheet including Figure 5. In Figure 5, reference numeral 34 has been removed.

Fourth sheet, which includes Figure 7, replaces the original sheet including Figure 7. In Figure 7, reference numeral 34 has been removed.

Fifth sheet, which includes Figure 10, replaces the original sheet including Figure 10. In Figure 10, reference numeral 34 has been removed.

Sixth sheet, which includes Figures 11A and 11B, replaces the original sheet including Figures 11A and 11B. In Figure 11A, reference numerals 135A and 135D have been removed.

Seventh sheet, which includes Figure 13, replaces the original sheet including Figure 13. In Figure 13, reference numeral 34 has been removed.

Eighth sheet, which includes Figure 14, replaces the original sheet including Figure 14. In Figure 14, reference numeral 34 has been removed.

Ninth sheet, which includes Figure 15, replaces the original sheet including Figure 15. In Figure 15, reference numeral 63 has been removed.

Tenth sheet, which includes Figures 16 and 17, replaces the original sheet including Figures 16 and 17. In Figure 17, reference numeral 77 has been removed.

Eleventh sheet, which includes Figures 18 and 19, replaces the original sheet including Figures 18 and 19. In Figure 18, reference numeral 81 has been added. In Figure 19, reference numeral 135 has been removed.

Twelfth sheet, which includes Figure 20, replaces the original sheet including Figure 20. In Figure 20, reference numeral 44 has been removed.

Attachment: 12 Replacement Sheets

REMARKS

Applicant respectfully request favorable reconsideration and reexamination of this application.

Claims 1 and 2 have been amended. The amendments are supported, at least for example, by the description "the steps causing a difference in optical path length that is 5 times the wavelength with respect to blue light cause a difference in optical path length that is three times the wavelength with respect to red light" (page 22, lines 34-36).

Claims 40 and 41 are canceled.

Claims 37, 39, and 45 were allowed.

Claims 1-39, 42-45 are pending in this application.

Drawings

The drawings were objected to for failing to comply with 37 CFR 1.84(p)(5). Several of the drawings included reference characters not mentioned in the description.

Twelve replacement sheets with corrected drawings are included with this paper. More specifically, in Figure 1, reference numeral 21 is deleted. In Figures 2, 5, 7, 10, 13, and 14, reference numeral 34 is deleted. In Figure 11A, reference numerals 135A and 135D are deleted. In Figure 15, reference numeral 63 is deleted. In Figure 17, reference numeral 77 is deleted. In Figure 19, reference numeral 135 is deleted. In Figure 20, reference numeral 44 is deleted.

The specification is amended. The description now includes reference characters 91, 1361, 1441, 65, 66, and 403.

Regarding Figure 13, although reference numeral 1441 is described in the specification portion discussing Figure 5, it is clear that the reference numeral 1441 also refers Figure 13 because the "optical head apparatus shown in FIG. 13 corresponds to the configuration shown in FIG. 5" (see page 31, lines 26-28).

Double Patenting

Claims 1-2, 16-17, 21, 25-27, 30, 42 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 8, 9, 11, 13-15 of copending Application No. 10/789,309. The rejection is moot in view of the terminal disclaimer filed herewith. Applicants do not concede the correctness of the rejection.

Claim 40 was provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 8, 9, 11, 13-15 of copending Application No. 10/789,309; and claims 1, 22, 32, 63, 69, 72, 81, 85, 87, 89 of copending Application No. 10/453,073. Claim 40 was also rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 3, 6, 11, 17, 22, and 28 of U.S. Patent No. 6928035. Claim 40 is canceled. Applicants do not concede the correctness of the rejection.

35 U.S.C. 102 Rejections

Claim 40 was rejected under 35 USC 102(e) as being anticipated by Komma et al. (U.S. Patent No. 6928035). Claim 40 was also rejected under 35 USC 102(e) as being anticipated by Shino et al. (U.S. Patent Application Publication US 2005/0152036 A1). Claim 40 was also rejected under 35 USC 102(e) as being anticipated by Hendriks et al. (U.S. Patent Application Publication US 2003/0151996 A1). Claim 40 is canceled. Applicants do not concede the correctness of the rejections.

35 U.S.C. 103 Rejections

Claims 1-2, and 42 were rejected under 35 USC 103(a) as being unpatentable over Hendriks et al. Applicants respectfully traverse this rejection.

Hendriks et al. teaches an optical element wherein one wavelength of light is selected as a “design wavelength” and the phase difference of that “design wavelength” is kept at a phase difference of 2π or an integer multiple thereof. However, other wavelengths’ phase differences lack the required integer multiple phase change ratio. In fact, the reference specifically teaches second and third wavelengths to having 0.833 multiple of 2π and 1.716 multiple of 2π , respectively (see paragraph [0057]). These are not integer multiples of 2π . The reference also teaches that summation of multiple phase steps are required such that the “design wavelength” has a phase change of an integer multiple of 2π . Hendriks et al. fails to teach or suggest wavelengths of two or more lights both having integer multiple of 2π . Accordingly, one having ordinary skill in the art at the time the invention was made would not have found claims 1-2, and 42 obvious in light of Hendriks et al. A favorable reexamination is requested.

Claim 3 was rejected under 35 USC 103(a) as being unpatentable over Hendriks et al. in view of Nagoya et al. (JP2002-237078 A1), of record. Applicants respectfully traverse this rejection.

Hendriks et al. does not disclose claim 2. Accordingly, claim 3 should be allowable at least for the same reason as claim 2 from which it depends. Nagoya et al. does not remedy the deficiencies of Hendriks et al. A favorable reexamination is requested.

Allowable Subject Matter

Applicants acknowledge that claims 37, 39, and 45 were allowed.

The Disposition of Claims states that claims 5, 18-20, 22-24, 28, 29, and 44 were objected to. However, the Office Action did not discuss the objection. Applicants respectfully traverse the objection and request more information so that Applicants may address the objection substantively. Alternatively, a favorable reconsideration and reexamination is requested.

In view of the above amendments and remarks, Applicant respectfully requests a Notice of Allowance. If the Examiner believes a telephone conference would advance the prosecution of this application, the Examiner is invited to telephone the undersigned attorney-of record, Douglas P. Mueller (Reg. No. 30,300), at (612) 455-3804.



Dated: October 31, 2006

Respectfully submitted,

HAMRE, SCHUMANN, MUELLER &
LARSON, P.C.
P.O. Box 2902
Minneapolis, MN 55402-0902
(612) 455-3800

By: _____

Douglas P. Mueller
Reg. No. 30,300
DPM/ajk